

Title of Invention: Multi-Axes Tool Compensation -- 3D and 5-axis real-time interactive tool compensation inside the CNC machine tool controller.

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Figure 1: Tool Parameter Computer Screen for Defining Multi-Axes Tool Compensation and 3D Tool Characteristics

CNC Machine Tool Parameters Ver 12

Tool Parameters							
	Size	Horz	Vert	Height	Wear	Custom1	Custom2
1	0.25	0.0	0.0	0.0	0.0	0	0
2	0.0	0.0	0.0	0.0	0.0	0	0
3	0.0	0.0	0.0	0.0	0.0	0	0
4	0.0	0.0	0.0	0.0	0.0	0	0
5	0.0	0.0	0.0	0.0	0.0	0	0
6	0.0	0.0	0.0	0.0	0.0	0	0
7	0.0	0.0	0.0	0.0	0.0	0	0
8	0.0	0.0	0.0	0.0	0.0	0	0
9	0.0	0.0	0.0	0.0	0.0	0	0
10	0.0	0.0	0.0	0.0	0.0	0	0

Tool Definitions (Solid Mode Only)					
	Corner radius	Bottom angle	Side angle	Length	Type
1	0.0	0.0	0.0	3.0	0
2	0.0	0.0	0.0	0.0	0
3	0.0	0.0	0.0	0.0	0
4	0.0	0.0	0.0	0.0	0
5	0.0	0.0	0.0	0.0	0
6	0.0	0.0	0.0	0.0	0
7	0.0	0.0	0.0	0.0	0
8	0.0	0.0	0.0	0.0	0
9	0.0	0.0	0.0	0.0	0
10	0.0	0.0	0.0	0.0	0

Machine Offsets								
	X	Y	Z	4	5	6	7	8
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Feature Offsets						
	G54	G55	G56	G57	G58	G59
X	0.0	0.0	0.0	0.0	0.0	0.0
Y	0.0	0.0	0.0	0.0	0.0	0.0
Z	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0

Optional Settings

☐ Dry Run (Disable Z, Spindle, Feed Mode)

☐ Bitmap G code Display (Speed Penalty)

☒ Graphics: Solids vs Wire Frame

0.001 Tolerance (math and positioning)

/ Block Skip Character

Teach.X Teach File Name (No Paths)

Fanuc Arc Centers

☒ Absolute (0)

☐ Incremental (1)

☐ R for Radius (2)

Solid Stock

Begin Z @ 0.0

Extra Stock 1.0

F4 key F3 key F2 key F1 key

F5 Tool Definitions F6 Tool Life F7 Tool Photos F8 Convert to Metric F9 Convert to Inch